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CONTENTS

Age determination	80-0001, 1076, 2701, 3927
Apparatus and techniques	80-0051, 1165, 2758, 3966
Book notices	80-0074, 1199, 2782, 4008
Clay minerals	80-0087, 1213, 2801, 4019
Crystal structure	80-0113, 1274, 2833, 4123
Economic minerals and ore deposits	80-0193, 1337, 2902, 4181
Environmental studies	80-0278, 1423, 3021, 4240
Experimental mineralogy	80-0289, 1452, 3040, 4254
Gemstones	80-0458, 1680, 3184, 4427
Geochemistry	80-0492, 1700, 3201, 4447
Lunar and planetary studies	80-0583, 1968, 3331, 4622
Meteorites and tektites	80-0631, 2068, 3370, 4716
Mineral data	80-0669, 2131, 3408, 4750
New minerals	80-0780, 2237, 3523, 4904
Petrology	80-0806, 2254, 3534, 4930
Physical properties of rocks and minerals	80-0994, 2589, 3848, 5227
Topographical mineralogy	80-1015, 2648, 3894, 5264
Various topics	80-1048, 2665, 3904, 5302

Place-names are, in general, in the form used in the Columbia-Lippincott Gazetteer of the World (1952 edition); alternative forms are given on occasion.

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ORGANIZATION OF ABSTRACTS

Arising from a decision taken at the meeting of the INTERNATIONAL MINERALOGICAL ASSOCIATION in Copenhagen in 1961 the Mineralogical Societies of America and Great Britain agreed to issue a joint statement to National Societies adhering to the Association inviting each Society to organize contributions of abstracts of papers published in the journals of its country on subjects relevant to *Mineralogical Abstracts*. This invitation was issued and has brought a gratifying response. Members of Societies which have agreed to co-operate in this way are entitled to receive *Mineralogical Abstracts* for their personal use at a reduced rate of subscription on application, *which must be made through their National Society*. The countries now co-operating include: AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CZECHOSLOVAKIA, DENMARK, FINLAND, FRANCE, GERMANY, INDIA, ISRAEL, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, PAKISTAN, PORTUGAL, SOUTH AFRICA, SPAIN, SWEDEN, SWITZERLAND.

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ERRATA

Mineralogical Abstracts, vol. 31

80-0043 *for* Amer. Min. *read* Geology

80-0406 *for* ($P42m$) *read* ($P\bar{4}2m$)

80-0709 *for* $Fe^{3+}_{3\cdot51}$ *read* $Fe^{2+}_{3\cdot51}$,
for $Fe^{2+}_{0\cdot81}$ *read* $Fe^{3+}_{0\cdot81}$,
for $S_{6\cdot09}$ *read* $Si_{6\cdot09}$

80-0762 *for* Zincian stannite (Berry & Thompson [M.A. **15**-503]) is a mixture of kesterite and stannoidite *read* Zincian stannite (Berry & Thompson [M.A. **15**-503]) is equivalent to kesterite [M.M. **31**-963]. The "unknown phase" of Petruk [M.A. **75**-3559] is a mixture of ferroan kesterite and stannoidite.

80-0867 *add page numbers*: 725–736

80-1459 *for* grinding *read* quenching

80-1683 *for* lead *read* led

80-2504 *for* -resistant *read* -resistate

80-3194 *for* froustite *read* proustite

80-3509 *for* Kavalenker *read* Kovalenker

80-3970 *for* 0·0001 *read* 0·001

80-4052 *for* Konno, H. M. *read* Konno, H.

80-4200 *for* 80-6216 *read* 80-4216

80-5097 *for* Ranier *read* Rainier

ABBREVIATIONS AND SYMBOLS

M.M. .. Mineralogical Magazine : M.A. .. Mineralogical Abstracts : A.M. .. American Mineralogist

CHEMICAL & PHYSICAL

CHEMICAL

atomic absorption spectroscopy	AAS
cation-exchange capacity	c.e.c.
chemical analysis	chem. anal.
concentrated	conc.
differential thermal analysis	DTA
dilute	dil.
disintegrations per minute	d.p.m.
equivalent U_3O_8	eU_3O_8
ethylenediaminetetra-acetic acid	EDTA
heat of formation (absolute temperature subscript)	ΔHf
hydrogen ion conc. acidity	pH
insoluble residue	insol. res
isotopes, e.g.	^{40}Ar, ^{40}K
loss on ignition	ign. loss
milliequivalent	me.
microgramme	μg
million-years	m.y.
neutron activation analysis	NAA
not determined	n.d.
not found	nt. fd.
not present	nil
parts per million	p.p.m.
rare earths	*TR* or *RE*
standard mean ocean water	SMOW
strength of solution, normal	*N*
——— molar	*M*
substances in ionic state	
anions, e.g.	Cl^-, SO_4^{2-}
cations, e.g.	K^+, Fe^{3+}
thermogravimetric analysis	TGA
trace	tr.
X-ray powder diffraction	XRD
X-ray fluorescence analysis	XRF

CRYSTALLOGRAPHIC & STRUCTURAL

Ångstrom unit (10^{-8} cm)	Å
crystal axes	*a*, *b*, *c*
— face indices	(hkl)
— form indices	{hkl}
— zone indices	[hkl]
indices of X-ray diffractions	hkl
intensity	*I*
— relative	I/I_0
interplanar spacing	*d*
mica structural polymorphs	$1M_1$, $2M_1$
Siegbahn units	kX
space group. These words are written in full	
unit cell, formula units	*Z*
—— repeat distances	*a*, *b*, *c*
—— reciprocal lattice lengths of edges	a^*, b^*, c^*
—— interaxial angles direct lattice	α, β, γ
——— reciprocal lattice	α^*, β^*, γ^*

OPTICAL

dispersion, e.g.	$r > v$
transmission electron microscopy	EM
extinction angle, e.g.	$\gamma : c$
infrared	IR
optic axial angle	2V
—— plane	O.A.P.
refractive index, in text	refr. ind.
—— of isotropic mineral	*n*
refractive indices	
of uniaxial mineral	ω, ϵ
of biaxial mineral	α, β, γ
scanning electron microscopy	SEM
sign of biaxiality	
negative	$2V_\alpha$ or −
positive	$2V_\gamma$ or +
ultraviolet	UV

PHYSICAL

calculated	calc.
calorie	cal.
calorie, large	kcal.
cycles per second	c/s
degree centigrade	°C
density	*D* (quote units)
—, relative, e.g.	D_4^{20}
electron paramagnetic resonance	e.p.r.
gramme	g
hardness	H.
kilobar (10^8 Pa)	kbar
melting-point	m.p.
micron (10^{-4} cm)	μm
nanometre (10^{-7} cm)	nm
natural remanent magnetization	n.r.m.
pounds per square inch	lb/in.^{2}
pressure	*P*
soluble	sol.
specific gravity, terms of reference not known	sp. gr.
temperature	*T*
Vickers hardness number	VHN
wavelength	λ

SYMBOLS

approximately equal to	$\sim$
equal to	$=$
equal to or greater than	$\geqslant$
equal to or less than	$\leqslant$
greater than	$>$
less than	$<$
not equal to	$\neq$
parallel to	$\parallel$
per cent	%
per mille	‰
perpendicular to	$\perp$
proportional to	$\propto$

ABBREVIATIONS USED IN REFERENCE TO PUBLICATIONS

Abhdl.	Abhandlungen
Abstr.	Abstract, -s
Abt.	Abteilung
Acad., Accad., Akad.	Academy, & *equiv.*
Adv.	Advancement
Agric.	Agricultur-al, -e
Anal.	Analy-st, -tical, &c.
Ann., An.	Annals, Anales, & *equiv.*
Anorg.	Anorganisch
Appl.	Applied
Arch.	Archives
Asoc., Assoc.	Association, & *eqiv.*
Astron.	Astronomical
Bd.	Band
Beitr.	Beiträge
Ber.	Bericht-e
Berg.	Bergwesen
Bol., Boll., Bull.	Bulletin, & *equiv.*
B.R.G.M.	Bur. Rech. Géol. Minières, France
Bur.	Bureau
Ceram.	Ceramic, & *equiv.*
Chem., Chim.	Chemi-cal, -stry, & *equiv.*
Cien.	Ciencia, -s
Circ.	Circular
Cl.	Classe
Com.	Comisión
Comm.	Commission
Conf.	Conference, & *equiv.*
Congr.	Congress, & *equiv.*
Contr.	Contributions
C.R.	Comptes Rendus
Crist., Cryst.	Crystallograph-ical, -y & *equiv.*
Dept.	Department, & *equiv.*
Diss.	Dissertation
Divn.	Division
Dokl.	Doklady = C.R.
D.S.D.P.	Deep-Sea Drilling Programme
Econ.	Economic
Educ.	Education
Eng.	Engineering
Exped.	Expedition
Exper.	Experimental
Expl.	Exploration
Fac.	Faculty
Fig(s).	Figure(s)
Fis.	Fisicale, fisico
Fören.	Föreningen
Förh.	Förhandlinger
Fortsch.	Fortschritt, -e
Gen.	General
Geochem., chim.	Geochemi-cal, -stry, &c.
Geogr.	Geograph-y, ical, &c.
Geol., géol.	Geolog-y, ical, -ist, & *equiv.*
Geophys., geofis.	Geophysic-al, -s, &c.
Gesell.	Gesellschaft
Govt.	Government
Hdbh.	Handbuch
Illustr.	Illustrat-ed, -ions
Imp.	Imperial
Industr.	Industr-ial, -y
Inform.	Information
Inst.	Institute, institution, & *equiv.*
Instr.	Instruments
Int.	Interior
Intern.	International
Invest.	Investigations
Issl.	Issledovaniye = investigation
Ist.	Istituto
Izd.	Izdanie = publication
Izvest.	Izvestiya
Jahrb.	Jahrbuch
Jahresb.	Jahresbericht
Jorn., Journ.	Journal, & *equiv.*
Khim.	Khim-ie, &c.
Kl.	Klasse
Krist.	Kristallographie, &c
Lab.	Laboratory
Lit.	Literary
Mag.	Magazine
Mat., Math.	Mathematical, & *equiv.*
Medd.	Meddelelser
Mem., Mém.	Memoir, -s, & *equiv.*
Metall.	Metallurg-ical, -y
Min.	Mineralog-ical, -ist, -y
Misc.	Miscellaneous
Mitt.	Mitteilungen
Mh.	Monatsheft
Mus., Muz.	Museum, & *equiv.*
Nac., Nat., Naz.	National, & *equiv.*
Natur.	Natur-al, -alist, & *equiv.*
Natur-w, -v.	Naturwissenschaft, & *equiv.*
Obraz.	Obrazovanie = education
Obshch.	Obshchestva = society
Petr.	Petrolog-ical, -y, & *equiv.*
Petrol.	Petroleum
Phil.	Philosophical, &c.
Photos.	Photographs
Photomicros.	Photomicrographs
Phys.	Physic-al, -s, & *equiv.*
Pl(s).	Plate(s)
Polytech.	Polytechnic, & *equiv.*
Pract., Prakt.	Practical, & *equiv.*
Proc.	Proceedings
Prof.	Professional
Prosp.	Prospecting
Publ.	Publication(s), published
Razv.	Razvedka = survey
Rec.	Records
Ref.	References, referata
Rend.	Rendiconti
Repb.	Republic
Rept.	Report(s)
Res.	Research
Reserv.	Reserves
Resrcs.	Resources
Rdsch.	Rundschau
Rev.	Review
Roy.	Royal, & *equiv.*
Sborn.	Sbornik = magazine
Sch.	School, Schule
Sci.	Science
Sect.	Section
Sedim.	Sedimentary
Ser., sér.	Series, & *equiv.*
Serv.	Service
Sitzb.	Sitzungsbericht
Skr.	Skrift, -en -er
Soc.	Society, & *equiv.*
Sondbd.	Sonderband
Spec., Spez.	Special, & *equiv.*
Stand.	Standard(s)
Stn.	Station
Suppl.	Supplement
Surv.	Survey, -or
Symp.	Symposium
Tab(s).	Table(s), tabellen
Techn.	Technologi-cal, -y
Tids(s)kr.	Tid(s)krift, -en
Tijdschr.	Tijdschrift
Trab.	Trabajos
Trans.	Transactions
Transl.	Translat-ed, -ion
U.A.R.	United Arab Republic
Uch.	Uchennye = learned
Ucheb.	Uchebnyi = teaching
Unders.	Undersögelse, undersökning
Univ.	University, & *equiv.*
Verhdl.	Verhandlungen
Vidensk.	Videnskaps
Volc., Vulk.	Volcanolog-ical, -y &c.
Vses.	Vsesoyuznyi = All-Union
Vyssh.	Vysshikh = higher
Wiss.	Wissenschaft
Zap.	Zapiski = memoirs
Zav.	Zavodskaya = factory
Zaved.	Zavedenii = institution
Zeits.	Zeitschrift
Zhurn.	Zhurnal = journal
Ztg.	Zeitung